



**American Personal
Communications**

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

April 22, 1994

The Hon. Reed E. Hundt
The Hon. James H. Quello
The Hon. Andrew C. Barrett
Federal Communications Commission
1919 M Street, N.W., Eighth Floor
Washington, D.C. 20554

Re: *Comments on PCS En Banc Hearing*
Personal Communications Services, Docket 90-314

Dear Chairman Hundt, Commissioner Quello
and Commissioner Barrett:

I.

The Commission's PCS panels of April 11 and 12 provided strong support for the following two positions, which were supported even by witnesses for their opponents:

- A. Spectrum blocks of at least 30 MHz are necessary effectively to launch initial PCS services that will survive against entrenched cellular and ESMR operations, particularly in light of PCS's microwave incumbency handicap which cannot be resolved in the near term. Blocks of at least 30 MHz also are necessary, even if microwave incumbents are fully cleared, in order for PCS to reach its full longer-term potential — competition with the local loop and data and image communications.^{1/}

^{1/} The Commission's PCS Task Force understands this potential and has the correct vision for PCS:

The decisions here are going to affect people's lives, the way they actually communicate with each other. It's going to change a paradigm of device-to-device communications with a paradigm of person-to-person communications, not just with voice but with data and enhanced video services. That is very significant. Perhaps as significant as the original invention of the telephone.

Closing Statement of Ralph Haller, Transcript of En Banc Meeting on PCS Issues, 1 Transcript ("tr.") 147. This is as true for rural PCS providers as for urban entities. See 1 tr. 252 (testimony of Mark Roberts) (30 MHz is minimum size for "rural markets where you might find that this is the amount of spectrum that would allow you to efficiently deploy what amounts to the full-service multimedia networks").

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- B. Licensing PCS by major trading areas will facilitate effective competition to existing cellular providers and ultimately to wireline operations; speed service to rural areas; and reduce system and consumer costs.^{2/}

In attachments A and B to this letter, we summarize the testimony in support of these positions and address those few statements that opposed these positions. Suffice it to say here that adoption of these positions is critical if PCS is to succeed in competing vigorously with cellular and the local exchange; in creating hundreds of thousands of good new jobs (not jobs that will supplant existing jobs); in launching an American-vision PCS service that can be exported to underdeveloped countries and thus boost not only our economy but theirs; and in providing an innovative framework for image and data services that will play a creative role in fostering the goals of our national and global information infrastructure initiatives.

II.

Other issues must be resolved, and in most cases the hearings last week support or leave intact solutions that should, by now, be obvious.

- A. The Commission must permit use of higher power.^{3/} Otherwise, universal PCS service will be impossible, less densely populated areas will be deprived of service or receive stunted service, costs and therefore consumer prices will be higher, PCS will not be competitive with cellular, and less efficient systems will have to be utilized.

^{2/} Even witnesses who had worked for CTIA (which has asked the Commission to auction almost 4,000 licenses based entirely upon small basic trading areas), Bell Atlantic, AirTouch and other cellular incumbents admitted that they favor using MTA-size licenses as part of a "diversified portfolio" of licenses or as the sole licensing plan for PCS. See 1 tr. 198 (testimony of Stan Besen), 1 tr. 205-206 (testimony of Jerry Hausman); 2 tr. 27 (testimony of Chuck Jackson).

^{3/} See, e.g., 2 tr. 12 (testimony of Limond Grindstaff, AirTouch); 1 tr. 44 (testimony of Daniel Trampush, Ernest & Young); 2 tr. 25 (testimony of George Murray). There is virtually unanimity on this point. An increase in power to 1,000 watts ERP was supported by APC, Northern Telecom, PCIA, MCI, GTE, Bell Atlantic, Pacific Bell/Nevada Bell, General Communications, Inc., and Citizens Utilities Co. Groups representing the microwave industry — the Fixed Point-to-Point Communications Section of the Network Equipment Division of the Telecommunications Industry Association ("TIA"), the Utilities Telecommunications Council ("UTC") and the Association of American Railroads ("AAR") — do not oppose an increase in PCS power.

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- B. The Commission should not allow a formal standard-setting process to delay the launch of the PCS industry. The Commission should permit the use of any technology for which proposed standards have been submitted to the now-ongoing standards process. Otherwise delay and protectionism will prevail.
- C. In-region cellular eligibility should be reasonably defined to promote competition. Out of region, cellular entities should be permitted to bid for PCS licenses without restriction.
 - 1. The existing rules are, perhaps, more complex than necessary. APC's proposed 20 percent across-the-board principle, which is based on the Commission's broadcast attribution principles and is described in detail in attachment C to this letter, would be effective in promoting competition but simpler to administer.
 - 2. If in-region cellular entities are to be eligible to bid for PCS spectrum blocks in-region, those blocks should be sized to permit new PCS entrants to have a comparable amount of spectrum. Cellular entities, after all, already have 25 MHz of clear spectrum. In-region cellular licenses should continue to be located in the 2100 MHz band because the cellular industry has the ability to focus manufacturers' attention on creating equipment for that band in the near term.

III.

The one troubling area is the appropriate licensing structure for designated entities. One source of this difficulty is that the designated entity community does not appear to have a unified position. Some representatives urge that designated entities should not be stuck with inadequate spectrum blocks — 10 MHz or 20 MHz — or license areas of inadequate size — BTAs. Others say that 30 MHz blocks and MTAs would be too expensive for designated entities to build and operate and that they can launch niche services in smaller areas and spectrum blocks.

- A. We believe that both the opportunity to participate in large-scale, competitive services and the opportunity to create niche services should be accommodated in the Commission's licensing plan. To accomplish this goal, the Commission should increase the 20 MHz C-block license to 30 MHz and the 10 MHz D-

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block license to 20 MHz.^{4/} Licenses permitting 30 MHz of spectrum and MTA-size areas will provide an effective opportunity for designated entities to participate in PCS.^{5/}

- B. Build-out requirements should be moderated for designated entities, especially in the upper-tier allocation intended to permit niche PCS applications to emerge.
- C. Rural telcos that qualify as designated entities should be excepted from the cellular cross-ownership rules for bidding in set-aside licensing areas in which they have wireline franchises.^{6/} Denying these companies spectrum in their home territories was undoubtedly an oversight and runs counter to Congressional intent. The definition of "rural telco" for purposes of PCS also could be moderated to permit qualifying rural telcos to be those that serve 150,000 or fewer access lines, in combination with all parent companies and subsidiaries, as APC and PCIA proposed.

^{4/} The remaining upper-tier license blocks would continue to be available for bidding by in-region cellular entities, presumably split into two 10 MHz blocks. Bidding for these blocks would be spirited; more than two in-region cellular entities exist in many major PCS markets because of cellular partnerships and differences in PCS and cellular licensing areas. For example, in Washington/Baltimore, Bell Atlantic, Southwestern Bell and GTE could bid for 10 MHz blocks; in Boston, Bell Atlantic, Southwestern Bell and NYNEX could bid for 10 MHz blocks; in Columbus, Ohio, Ameritech, CCI and AirTouch could bid for 10 MHz blocks.

^{5/} Licenses based on 30 MHz will be *less expensive* for designated entities to build out because of increased ability to share spectrum. Because of extensive microwave blockage for 20 MHz allocations in the 1850-1970 MHz band, designated entities would face *higher* costs in connection with building 20 MHz blocks than they would 30 MHz blocks because they would be forced to accomplish massive microwave relocations before they could provide any service at all on a 20 MHz block. In contrast, designated entities could provide service much more quickly, at less cost and with many fewer relocations if they had access to 30 MHz spectrum blocks. Contrary to the opinions of a few, microwave incumbency in small 20 MHz blocks can be a service-stopper for all PCS licensees, regardless of the size of the company holding the PCS license. Cf. 1 tr. 255 (testimony of John Oxendine). Similarly, it would be more expensive for designated entities as a group to build wastefully redundant infrastructures in up to 17 BTAs comprising an MTA in comparison to building an MTA-wide system that could capture economies of scope (using fewer switching facilities, sharing a coordinated service and marketing structure, etc.). See APC Comments, Gen. Docket 90-314, Nov. 10, 1992, p. 32; see also 2 tr. 116 (testimony of Alex Felker); tr. 117 (testimony of Chuck Jackson in agreement).


^{6/} See 1 tr. 44 (testimony of Dan Trampush, Ernst & Young).

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We thus recommend that the Commission retain the essential character of its September licensing plan but (1) increase the permissible power levels for PCS; (2) expand the C-block designated entity set-aside to a 30 MHz MTA; (3) expand the D-block designated entity set-aside to a 20 MHz MTA; (4) moderate the cellular eligibility threshold by adopting APC's 20 percent test; (5) eliminate the cross-ownership prohibition for rural telcos and expand the definition of qualifying rural entities; and (6) moderate build-out requirements for designated entities. These modest changes would not slow the advent of PCS; they are fully supported by the existing administrative record and the Commission's notices of proposed rule making and would not require an additional pleading cycle.

We applaud the efforts of the staff, the Chairman and the Commissioners to move quickly on reconsideration. These efforts will be rewarded by the emergence of a vibrant and competitive American PCS industry that will be the envy of the world. Should any questions arise in connection with the matters discussed in this letter, please feel free to contact us.

Respectfully submitted,


Wayne N. Schelle
Chairman

Attachments

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ATTACHMENT A

The Need for 30 MHz Spectrum Blocks

The support for 30 MHz spectrum blocks that was voiced during the *en banc* hearing is a reflection of the reality that competitive PCS services will be impossible without a significant amount of spectrum. Perhaps most striking was the recognition by Wall Street investment analysts that allocations of less than 30 MHz would prevent PCS from being an effective competitor against cellular or local exchange operators:

"The 30 MHz license size — PCS entrants must get contiguous blocks of spectrum so that they can efficiently compete and have a similar cost structure to the incumbent's cellular service providers that have 25 MHz. . . . License sizes of less than 30 MHz are likely to permanently lock in premium returns for the cellular industry. Now, this will inhibit PCS deployment and inhibit their ability to raise capital." *Mark Roberts, Alex Brown & Co. (1 tr. 249).*

"All I can tell you is that Mercury One-to-One [in England] has 50 MHz of cleared spectrum that it doesn't have to share with anybody, and they are successful. . . . So what we would like to see is a spectrum grant that we know is going to work. We do not want to see a spectrum grant where we will be scratching our heads saying, boy, if this doesn't work our money is down the drain. There is enough risk in this as it is that the size of the spectrum grant does not have to be the issue around which the risk turns." *Paul Rissman, Alliance Capital (1 tr. 250-51).*

[*When asked if she would "finance the stand-alone 10 and the 20 as presently constituted":*] "Doubtful." *Nancy Peretsman, Salomon Brothers (1 tr. 267).*

There was virtual unanimity that an allocation plan that relies upon aggregation of spectrum blocks to create workable licenses — such as the Bell Atlantic 6 x 20 MHz scheme — would impose delays and costs that would hinder competitive new entrants:

"I don't want to be associated with the view that says that aggregation is, quote, no problem. I think that is too strong. Clearly there are going to be costs to any reallocation[s] that exist. . . . [Y]ou ought to try to get it right, basically, because there are costs of reallocations. You want to save those costs if you can. . . . And inevitably there will be subsequent reallocation. Do the best you can." *Stan Besen, CTIA (1 tr. 197, 153).*

[*"What you are saying is that there are transaction costs and delays" in connection with aggregation of spectrum blocks?*] "Yes, I'm saying yes, in 10 years that will all be taken care of." *Paul Rissman, Alliance Capital (1 tr. 319).*

"I think you need to worry about the costs of aggregating up to an efficient size if you put out licenses that are too small. That is going to be time-consuming. And if you have a good basis for believing that you need 30 to be viable, start there." *Daniel Kelly, Hatfield & Associates (1 tr. 164).*

There also was agreement that an additional two-three PCS competitors — given the current two entrenched cellular entities in each market and the presence of at least one ESMR licensee in virtually all markets — would ensure a competitive market:

["What you are talking about basically is adding — adding three new full-service competitors to start with."] "Yes, that is what I think is likely in densely populated top-50 MSA-type areas." Jerry Hausman, Bell Atlantic/AirTouch (1 tr. 160).

"I think our view is that the maximum [number of new PCS entrants] is three. And there's probably markets [where] the right number [is] two. . . . I won't belabor the obvious, but you have already got a handful of competitors going into this marketplace Day One." *Nancy Peretsman, Salomon Brothers (1 tr. 279).*

"I think if you can get three PCS players that would be a very good thing. It is clearly a lot better than the two cellular carriers we have now that dominate the existing mobile wireless markets. It would clearly provide you, I think, with some interesting entry points into a portion of the local telephone business." *Daniel Kelly, Hatfield & Associates (1 tr. 164).*

"Vanguard Cellular in a recent presentation forecast that their cost would be down to about eight cents a minute after they have fully implemented their digital technology, and that they would be planning on charging 20 cents a minute, so half of what they're charging now." *Paul Rissman, Alliance Capital (1 tr. 316).*

Numerous others also supported the concept of 30 MHz — or even larger — spectrum blocks, because of both microwave congestion and the need for PCS to achieve the vision of competing in the local exchange in both urban and rural areas:

"I think it's even more important [because of cellular preemptive competition], therefore, to make sure that the new entrants have a level playing field, have the spectrum, the 30 meg, and the MTAs that they need to avoid the incumbent microwave users initially, and build up the capacity to match the cellular operators. . . ." *David Twyver, Northern Telecom (1 tr. 103).*

"[G]iven the spectrum clearing problems, 30 is about the minimum that you need to be viable to go head-to-head against the existing cellular guys. And if you do 30, you are going to have a smaller number of total licensees, but you might have more effective competitors when you are all done at the end of the day." *Daniel Kelly, Hatfield & Associates (1 tr. 157).*

"[I]n talking with a number of the folks who would like to get into plain old local access service, 30 MHz appears to be an efficient point where you could deploy microcells off of a full-service network node structure and supply basic narrowband wireline telephony at prices that would allow you to earn a competitive investment return compared to prices that people are — or slight premiums to what people are currently paying for wireline telephony.

"We think 30 MHz appears to be about the minimum size, particularly if you are going to deploy services in third- and fourth-tier markets, rural markets where you might find that this is the amount of spectrum that would allow you to efficiently deploy what amounts to the full-service multimedia networks. Because as you move from a copper-based infrastructure to a wireless infrastructure, you would use these in rural markets to supply both voice, video and data." *Mark Roberts, Alex Brown & Co. (1 tr. 252-53).*

For "competing head-to-head with existing cellular companies, then yes, they need 30 megahertz of spectrum." *Herbert Wilkins, Syncom (1 tr. 253-54).*

* * *

Although the comments on spectrum blocks were overwhelmingly supportive, we must reply to two isolated attacks on 30 MHz licenses and the very concept of spectrum sharing that were made during the hearing.

- A. "It doesn't cost the PCS operator anything to remove the microwave incumbents. They come out for free. . . . [Bidders will] all subtract that cost from the bids and the bids will be lowered by the amount of the cost of removing the incumbents. So anybody who tells you not only do we have to pay for the spectrum, we have to pay for removing the incumbents, is engaged in a form of double counting." *Chuck Jackson, Bell Atlantic (2 tr. 32).*

This is a facile assessment — which drew many smiles at the hearing — of the real world of microwave relocation (one is reminded of the shipwrecked economists stranded far from land in a rowboat deciding to "assume an oar"). In fact, incumbents will be grandfathered for from three to five years; the actual cost of relocating incumbents will be unknown until years after the auction. Even so, the most devastating cost of relocating incumbents is the years-long delay that would be imposed by too-small spectrum blocks forcing PCS licensees to relocate all incumbents prior to commencing service. This delay would certainly be beneficial to Mr. Jackson's client and other entrenched cellular entities, but the American public would suffer. As a witness with real-world experience in microwave relocation testified:

"In order to engineer around a particular microwave receiver, there needs to be enough spectrum room to do that. PCS spectrum allocations that are as wide as the occupied microwave bandwidth [*i.e.*, 20 MHz] leave no room to work around a particular

microwave receiver. Instead, a PCS operator with these allocations would be faced with the predicament on Day One of more than likely relocating all or a large percentage of all the microwave paths within a market. . . .

"Within the band allocated to PCS, there are approximately 12,000 licensed microwave paths. To relocate this magnitude of microwave paths within a reasonable amount of time will tax the resources of practically every segment of the industry. . . . [T]he critical aspect in meeting that [challenge] will be the additional time constraint." *Jeff Rosenblatt, Comsearch (2 tr. 62, 65).*

- B. "[W]hen you deploy a PCS system, if you can control your users and keep them where you want them, it's great. But once the users start roaming and start moving around, sharing spectrum does not work. So when the issues come up about 40 MHz, 20 MHz and 10 MHz, it's irrelevant. You need to move the microwave users out, and the FCC has taken steps to do that." *Limond Grindstaff, AirTouch (2 tr. 86).*

It is surprising that AirTouch, formerly Pacific Telesis, apparently has abandoned its own highly-vaunted approach to spectrum sharing. Mr. Grindstaff's statement is at variance with Pacific Telesis' own filings supporting the TTL spectrum-sharing approach. APC has performed more than 300,000 measurements in Washington and Baltimore (a highly congested microwave market), at street level and in the upper stories of buildings; our research, which has been filed in Gen. Docket 90-314 and in our experimental reports, has effectively debunked the "skyscraper myth." Bulletin 10 microwave protection criteria and spectrum-sharing systems, including APC's PathGuard System, take high-level portable use into consideration. There no longer remains a question of whether spectrum sharing is possible; that proposition has been proven. The remaining question is whether the Commission will continue to embrace an allocation plan that permits sharing to be implemented, or whether it will follow the suggestion of the very industry that would profit from the evisceration of PCS and rely on insufficient 20 MHz licenses.

* * *

"PCS will never overshadow cellular because of the 12-year head-start cellular has on PCS. . . . The delay in auctions works in cellular operators' favor. As long as we can keep the current market structure, we benefit." *Lee Cox, president, and Sam Ginn, CEO, AirTouch (reported in PCS News, April 14, 1994, p. 8).*

(Although this statement was not made at the en banc hearing, it is so telling of the motivations of some elements of the cellular industry that we could not help but include it here.)

ATTACHMENT B

The Need for Major Trading Area Licensing

There was no serious opposition to the Commission's plan to utilize major trading area ("MTA") licensing for PCS during the *en banc* hearing. In fact, there was significant support for expanding PCS licenses across the board to MTA dimensions. Perhaps the most striking testimony in favor of MTA licensing came from witnesses representing CTIA, GTE, Bell Atlantic, and other cellular companies who have filed formally in favor of all-BTA plans:

"... I think a mixture of BTAs and MTAs is really quite attractive." Jerry Hausman, Bell Atlantic/AirTouch (1 tr. 205, 208).

"There are costs to aggregation. There is no doubt about that. . . . I think the notion of having some sort of diversified portfolio so that there is some large and some smaller ones seems to make some sense." Stan Besen, CTIA (1 tr. 198).

"We believe that the two 30 MHz licenses, defined by the Rand-McNally MTAs, are without question the most valuable. . . . the MTA coverage offers generously large geographic service area[s], which is both consistent with competing with the communities of interest and with the much smaller MSAs and RSAs that the cellular carriers and ESMR providers have." C.J. Waylon, GTE (2 tr. 54).

The investment community and market researchers also spoke with one voice about the need for licenses of MTA scope, and the need to avoid reliance on costly and time-consuming after-market aggregation:

"I take the view that the MTA license size is a reasonable license size. It provides coverage in a rational economic area. . . . So having the MTA as a minimum number license size would probably be the best thing [because] you do away with the need to do a lot of aggregation across geography. . . . You need to shorten the time to market as to the shortest possible time frame both in terms of the licensee's perceptions of how long it is going to take them after winning a license that they are going to be able to introduce service. . . . I see it as a fairly simple function. The longer the delay before PCS is in the market the lower the expected investment return, and higher the cost of capital is going to be." Mark Roberts, Alex Brown & Co. (1 tr. 322-23).

"If somebody comes to me with a BTA license they would not be financeable from my point of view." Paul Rissman, Alliance Capital (1 tr. 269).

"We believe the wide area — starting out with a very wide-area license — will give them an advantage over some of the other industries, starting out. There's no need to aggregate a lot of licenses, like the cellular industry is still doing, trying to get that area needed, that consumers want, without having to do all of the roaming which we have seen to be a negative with the cellular industry." *Elliott Hamilton, EMCI (1 tr. 66).*

"And so my recommendation would be simply spend a lot more time thinking about the sizing question rather than setting up a process that would expedite aggregation but allow for some seepage and all kinds of the cumbersome parts of transfers. . . . [Y]ou ought to . . . structure your rules in such a way so that there isn't a lot of . . . seepage, reorganization, or profiteering that takes place as a result of subsequent transactions." *Nancy Peretsman, Salomon Brothers (1 tr. 322, 334).*

ATTACHMENT C

Cellular Eligibility

Under APC's proposed 20 percent cellular eligibility threshold,^{1/} if an entity has a less than 20 percent interest in the cellular licensee serving the same area, it would not be barred from filing for a PCS license in that area.

If the entity in question owned 100 percent of a cellular system that served less than 20 percent of the population of the major trading area, then it would not be disqualified. Minority interests would be subject to multiplier principles similar to those set forth in the Commission's broadcast multiple ownership rules, so that if the entity in question owned 25 percent of a cellular system which served 36 percent of the population of the PCS licensing area, it would be attributed with a 9 percent interest (25% x 36%) and then would be eligible to apply for a PCS license for that area.^{2/} The same principles would apply with respect to calculating the ownership interest in the PCS application. A less than 20 percent interest in the PCS application would not be attributable (*i.e.*, would not be considered to trigger the bar).

APC has analyzed the effects of this policy on cellular ownership opportunities, and the results demonstrate convincingly that APC's proposed 20 percent ownership limitation would permit substantial PCS opportunities for cellular companies:

- McCaw, the largest cellular company in the United States, could provide PCS to 52 percent of the population of the United States -- including markets such as Chicago, Boston, Washington/Baltimore, and Atlanta.
- GTE, the second largest cellular company, could provide PCS to 71 percent of the country's population -- including markets such as New York, Los Angeles, Chicago and Washington/Baltimore.
- Each regional Bell operating company could provide PCS to serve between 71 percent (Bell Atlantic) and 90 percent (U S West) of the population of the United States.

^{1/} Based on Letter from Wayne N. Schelle to Alfred C. Sikes, September 17, 1992.

^{2/} As in the Commission's multiple ownership rules, interests of 50 percent or more could be treated as if they were 100 percent interests for purposes of the multiplier, because ownership of more than 50 percent implies control of the licensee.

- The remainder of the top 36 cellular companies could provide PCS to virtually the entire population of the United States. For example:
 - Alltel could serve 98 percent;
 - Associated could serve 99 percent;
 - CIS could serve 100 percent;
 - Cincinnati Bell could serve 97 percent;
 - Comcast could serve 96 percent;
 - Rochester Telephone could serve 99 percent;
 - SNET could serve 100 percent;
 - Sprint/Centel could serve 89 percent;
 - TDS could serve 91 percent; and
 - Vanguard could serve 96 percent.